[6450-01-P]

DEPARTMENT OF ENERGY

[Case Number 2020-007, EERE-2014-BT-WAV-0038]

Energy Conservation Program: Extension of Waiver to GE Appliances, a Haier Company from the Department of Energy Consumer Refrigeration Products Test Procedure

AGENCY: Office of Energy Efficiency and Renewable Energy, Department of Energy.

ACTION: Extension of waiver.

SUMMARY: The U.S. Department of Energy ("DOE") is granting a waiver extension (Case No. 2020-007) to GE Appliances, a Haier Company ("GEA") from specified portions of the DOE consumer refrigeration products test procedure for determining the energy consumption of the specified GEA combination cooler refrigeration product basic model. Under this extension, GEA is required to test and rate the specified basic model in accordance with the alternate test procedure specified in the Order.

DATES: The Extension of Waiver is effective on [INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]. The Extension of Waiver will terminate upon the compliance date of any future amendment to the test procedure for consumer refrigeration products located in 10 CFR part 430, subpart B, appendix A that addresses the issues presented in this waiver. At such time, GEA must use the relevant test procedure for the specified basic model of combination cooler refrigeration product for any testing to demonstrate compliance with standards, and any other representations of energy use.

FOR FURTHER INFORMATION CONTACT:

Ms. Lucy deButts, U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, Building Technologies Office, EE-5B, 1000 Independence Avenue, SW., Washington, DC, 20585-0121. E-mail: *AS_Waiver_Requests@ee.doe.gov*.

Mr. Michael Kido, U.S. Department of Energy, Office of the General Counsel, Mail Stop GC-33, Forrestal Building, 1000 Independence Avenue SW., Washington, DC 20585-0121. Telephone: (202) 586-8145. Email: *Michael.Kido@hq.doe.gov*.

SUPPLEMENTARY INFORMATION:

In accordance with Title 10 of the Code of Federal Regulations (10 CFR 430.27(g)), DOE gives notice of the issuance of an Extension of Waiver as set forth below. The Extension of Waiver extends the Decision and Order granted to GEA (then GE Appliances) on February 12, 2015 (80 FR 7851, "February 2015 Decision and Order") to include GEA basic model G30W_C-9I-BI_N, as requested by GEA on June 29, 2020.[1] GEA must test and rate the specifically identified G30W_C-9I-BI_N basic model in accordance with the alternate test procedure specified in the February 2015 Decision and Order. GEA's representations concerning the energy consumption of the specified basic models must be based on testing according to the provisions and restrictions in the alternate test procedure set forth in the February 2015 Decision and Order, and the representations must fairly disclose the test results. Distributors, retailers, and private labelers are held to the same requirements when making representations regarding the energy consumption of these products. (42 U.S.C. 6293(c))

DOE makes decisions on waiver extensions for only those basic models specifically set out in the request, not future models that may be manufactured by the petitioner. GEA may submit a new or amended petition for waiver and request for grant of interim waiver, as

[1]GEA's request is available at *https://www.regulations.gov/document?D=EERE-2014-BT-WAV-0038-0004.*

appropriate, for additional basic models of consumer refrigeration products. Alternatively, if appropriate, GEA may request that DOE extend the scope of a waiver to include additional basic models employing the same technology as the basic model(s) set forth in the original petition consistent with 10 CFR 430.27(g).

Signing Authority

This document of the Department of Energy was signed on November 12, 2020, by Alexander N. Fitzsimmons, Deputy Assistant Secretary for Energy Efficiency, Energy Efficiency and Renewable Energy, pursuant to delegated authority from the Secretary of Energy. That document with the original signature and date is maintained by DOE. For administrative purposes only, and in compliance with requirements of the Office of the Federal Register, the undersigned DOE Federal Register Liaison Officer has been authorized to sign and submit the document in electronic format for publication, as an official document of the Department of Energy. This administrative process in no way alters the legal effect of this document upon publication in the *Federal Register*.

Signed in Washington, DC, on November 13, 2020.

Treena V. Garrett,
Federal Register Liaison Officer,
U.S. Department of Energy.

Case Number 2020-007
Extension of Waiver

I. Background and Authority

The Energy Policy and Conservation Act, as amended ("EPCA")[1] authorizes DOE to regulate the energy efficiency of a number of consumer products and certain industrial equipment. (42 U.S.C. 6291–6317) Title III, Part B[2] of EPCA established the Energy Conservation Program for Consumer Products Other Than Automobiles, which sets forth a variety of provisions designed to improve energy efficiency for certain types of consumer products. These products include refrigerators, refrigerator-freezers, freezers. (42 U.S.C. 6292(a)(1)) EPCA also contains provisions that enable the Secretary of Energy to classify additional types of consumer products as covered products. (42 U.S.C. 6292(a)(20)) In a final determination of coverage published in the *Federal Register* on July 18, 2016 (the "July 2016 Final Coverage Determination"), DOE classified miscellaneous refrigeration products ("MREFs") as covered products under EPCA. 81 FR 46768. MREFs are consumer refrigeration products other than refrigerators, refrigerator-freezers, or freezers, which include coolers and combination cooler refrigeration products. 10 CFR 430.2. Combination cooler refrigeration products (*e.g.*, wine chillers combined with a refrigerator, freezer, or refrigerator-freezer) are the subject of this extension.

The energy conservation program under EPCA consists essentially of four parts: (1) testing, (2) labeling, (3) Federal energy conservation standards, and (4) certification and enforcement procedures. Relevant provisions of EPCA include definitions (42 U.S.C. 6291), energy conservation standards (42 U.S.C. 6295), test procedures (42 U.S.C. 6293), labeling

[1] All references to EPCA in this document refer to the statute as amended through America's Water Infrastructure Act of 2018, Public Law 115-270 (Oct. 23, 2018).
[2] For editorial reasons, upon codification in the U.S. Code, Part B was redesignated as Part A.

provisions (42 U.S.C. 6294), and the authority to require information and reports from manufacturers (42 U.S.C. 6296)

The Federal testing requirements consist of test procedures that manufacturers of covered products must use as the basis for: (1) certifying to DOE that their products comply with the applicable energy conservation standards adopted pursuant to EPCA (42 U.S.C. 6295(s)), and (2) making representations about the efficiency of that product (42 U.S.C. 6293(c)). Similarly, DOE must use these test procedures to determine whether the product complies with relevant standards promulgated under EPCA. (42 U.S.C. 6295(s))

Under 42 U.S.C. 6293, EPCA sets forth the criteria and procedures DOE is required to follow when prescribing or amending test procedures for covered products. EPCA requires that any test procedures prescribed or amended under this section must be reasonably designed to produce test results that reflect the energy efficiency, energy use or estimated annual operating cost of a covered product during a representative average use cycle or period of use and requires that test procedures not be unduly burdensome to conduct. (42 U.S.C. 6293(b)(3)) The test procedure for refrigerators, refrigerator-freezers, coolers, and combination cooler refrigeration products is contained in 10 CFR part 430, subpart B, appendix A – Uniform Test Method for Measuring the Energy Consumption of Refrigerators, Refrigerator-Freezers, and Miscellaneous Refrigeration Products ("Appendix A").

Any interested person may submit a petition for waiver from DOE's test procedure requirements. 10 CFR 430.27(a)(1). DOE will grant a waiver from the test procedure requirements if DOE determines either that the basic model for which the waiver was requested contains a design characteristic that prevents testing of the basic model according to the prescribed test procedures, or that the prescribed test procedures evaluate the basic model in a

manner so unrepresentative of its true energy or water consumption characteristics as to provide materially inaccurate comparative data. 10 CFR 430.27(f)(2). DOE may grant the waiver subject to conditions, including adherence to alternate test procedures. *Id.*

A petitioner may request that DOE extend the scope of a waiver or an interim waiver to include additional basic models employing the same technology as the basic model(s) set forth in the original petition, without limiting an extension to products of the same class. 10 CFR 430.27(g). DOE will publish any such extension in the *Federal Register*. *Id*.

II. Request for an Extension of Waiver: Assertions and Determinations

On February 12, 2015, DOE issued a Decision and Order in Case Number RF-042 granting GEA a waiver to test certain consumer refrigerator-freezer basic models subject to the original Decision and Order using an alternate test procedure. 80 FR 7851 ("February 2015 Decision and Order").[3] GEA stated that its refrigerator-freezers with a dual-compressor design were not properly accounted for in DOE's final test procedure rule published on April 21, 2014 (78 FR 22320) because these basic models demonstrate non-uniform cycling of their compressors, which prevents the verification of two criteria in the Appendix A test procedure—to ensure (a) that the first part of the test comprises a period of stable operation, and (b) that the second part of the test (used to measure the energy use contribution of the defrost cycle(s)) both starts and ends during periods of stable operation. 80 FR 7852.

Based on its review, including of the information provided by GEA, DOE determined that the current test procedure at Appendix A would evaluate the refrigerator-freezer basic models specified in the February 2015 Decision and Order in a manner so unrepresentative of their true energy consumption characteristics as to provide materially inaccurate comparative

[3] The basic models subject to the February 2015 Decision and Order are ZIC30***** and ZIK30*****.

data. 80 FR 7852–7853. The February 2015 Decision and Order specifies that GEA must test and rate the subject basic models such that the stability requirements for the first part of the test are adapted to dual-compressor cycling and the period selection and duration for the second part of the test are adapted to dual-compressor cycling and defrosting. *Id.* Additionally, the unit must be run for a stabilization period of at least 24 hours preceding the test at each temperature control setting, and the test measurement frequency requirements made more stringent to a maximum of 1 minute per sample. *Id.*

On June 29, 2020, GEA submitted a petition for waiver and interim waiver for a certain basic model of a combination cooler refrigeration product, which uses the same dual-compressor technology with non-uniform compressor cycling as the residential refrigerator-freezer basic models subject to the February 2015 Decision and Order. Both combination cooler refrigeration products and refrigeration-freezers must be tested according to Appendix A. 10 CFR 430.23(a) and (ff). In its June 29, 2020 petition, GEA suggested the same alternate test procedure as prescribed in the February 2015 Decision and Order be used for the subject basic model. For these reasons, DOE is treating this petition for waiver and interim waiver as a request for an extension under 10 CFR 430.27(g) and that the scope of the waiver, Case Number RF-042, be extended to the GEA cooler-freezer basic model G30W_C-9I-BI_N. DOE is publishing at the end of this document GEA's request for extension of waiver in its entirety.

DOE has reviewed GEA's waiver extension request and determined that the G30W_C-9I-BI_N basic model identified in GEA's request incorporates the same design characteristics as those basic models covered under the waiver in Case Number RF-042 such that the test procedure evaluates that basic model in a manner that is unrepresentative of its actual energy use. The basic model G30W_C-9I-BI_N specified in GEA's request is a combination cooler refrigeration product (a cooler-freezer). As noted, the specified combination cooler

refrigeration product is subject to testing according to Appendix A, the Federal test procedure from which GEA was granted a waiver in Case Number RF-042. Moreover, the subject basic model uses the same technology as the basic models of refrigerator-freezers subject to the alternate test procedure specified in the February 2015 Decision and Order. DOE has determined that the alternate procedure specified in the February 2015 Decision and Order will allow for the accurate measurement of the energy use of the combination cooler refrigeration product basic model identified by GEA in its waiver extension request.

III. Order

After careful consideration of all the material submitted by GEA in this matter, it is **ORDERED** that:

(1) GEA must, as of the date of publication of this Extension of Waiver in the *Federal Register*, test and rate the following basic model with the alternate test procedure as set forth in paragraph (2):

Brand	**Basic Model**
GE	G30W_C-9I-BI_N

(2) The alternate test procedure for the GEA basic model referenced in paragraph (1) of this Order is the test procedure for refrigerators, refrigerator-freezers, and miscellaneous refrigeration products prescribed by DOE at 10 CFR part 430, subpart B, appendix A, with the following modifications:

The energy consumption shall be determined as follows:

$$ET = \left(1440 \times \frac{EP1}{T1}\right) + \sum_{i=1}^{D} \left(EP2_i - \left(EP1 \times \frac{T2_i}{T1}\right)\right) \times \left(\frac{12}{CT_i}\right)$$

Where:

- *ET* is the test cycle energy (kWh/day);
- 1440 = number of minutes in a day;
- *EP*1 is the dual compressor energy expended during the first part of the test. (If at least one compressor cycles, the test period for the first part of the test shall include a whole number of complete primary compressor cycles comprising at least 24 hours of stable operation, unless a defrost occurs prior to completion of 24 hours of stable operation, in which case the first part of the test shall include a whole number of complete primary compressor cycles comprising at least 18 hours of stable operation);
- *T*1 is the length of time for *EP*1 (minutes);
- D is the total number of compartments with distinct defrost systems;
- i is the variable that equals to 1, 2 or more that identifies the compartment with a distinct defrost system;
- $EP2_i$ is the total energy consumed during the second (defrost) part of the test being conducted for compartment i (kWh);
- $T2_i$ is the length of time for the second (defrost) part of the test being conducted for compartment i (minutes);
- 12 = conversion factor to adjust for a 50% run-time of the compressor in hours/day;
- CT_i is the compressor on-time between defrosts for only compartment i. CT_i for compartment i with a long time automatic defrost system is calculated as per 10 CFR part 430, subpart B, appendix A, clause 5.2.1.2. CT_i for compartment i with

a variable defrost system is calculated as per 10 CFR part 430 subpart B, appendix A, clause 5.2.1.3 (hours rounded to the nearest tenth of an hour).

Stabilization: The test shall start after a minimum 24 hours stabilization run for each temperature control setting.

Test Period for $EP2_i$, $T2_i$: $EP2_i$ includes precool, defrost, and recovery time for compartment i, as well as sufficient dual compressor cycles to allow $T2_i$ to be at least 24 hours, unless a defrost occurs prior to completion of 24 hours, in which case the second part of the test shall include a whole number of complete primary compressor cycles comprising at least 18 hours. The test period shall start at the end of a regular freezer compressor on-cycle after the previous defrost occurrence (cooler or freezer). The test period also includes the target defrost and following freezer compressor cycles, ending at the end of a freezer compressor on-cycle before the next defrost occurrence (cooler or freezer).

Test Measurement Frequency: Measurements shall be taken at regular intervals not exceeding 1 minute.

(3) *Representations*. GEA may make representations about the energy use of the basic model listed in paragraph (1) of this Order for compliance, marketing, or other purposes only to the extent that the basic model has been tested in accordance with the provisions of paragraph (2) of this Order and such representations fairly disclose the results of such testing.

(4) This Extension of Waiver shall remain in effect according to the provisions of 10 CFR 430.27.

(5) This Extension of Waiver is issued on the condition that the statements, representations, and documents provided by GEA are valid. If GEA makes any modifications to the controls or configurations of the basic model, the waiver will no longer be valid and GEA will either be required to use the current Federal test method or submit a new application for a test procedure waiver. DOE may rescind or modify this Extension of Waiver (and/or the underlying Order issued in Case Number RF-042) at any time if it determines the factual basis underlying the petition for extension of waiver (and/or the underlying Order issued in Case Number RF-042) is incorrect, or the results from the alternate test procedure are unrepresentative of a basic model's true energy consumption characteristics. 10 CFR 430.27(k)(1). Likewise, GEA may request that DOE rescind or modify the Extension of Waiver (and/or the underlying Order issued in Case Number RF-042) if GEA discovers an error in the information provided to DOE as part of its petition, determines that the waiver is no longer needed, or for other appropriate reasons. 10 CFR 430.27(k)(2).

(6) GEA remains obligated to fulfill any applicable requirements set forth at 10 CFR part 429.

Signed in Washington, DC, on November 12, 2020

Alexander N. Fitzsimmons
Deputy Assistant Secretary
for Energy Efficiency
Energy Efficiency and Renewable Energy

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June 29, 2020

Via Email (AS_Waiver_Requests@ee.doe.gov)

Mr. Daniel Simmons
Assistant Secretary of Energy Efficiency and Renewable Energy
U.S. Department of Energy
Building Technologies Program, Test Procedure Waiver
1000 Independence Avenue, SW
Mailstop EE-5B,
Washington, DC 20585

Re: Petition for Waiver & Application for Interim Waiver Regarding Test Procedure for Measuring the Energy Consumption of Refrigerators, Refrigerator-Freezers, and Miscellaneous Refrigeration Products

Dear Asst. Sec. Simmons:

GE Appliances, a Haier company (GEA) respectfully submits this Petition for Waiver and Application for Interim Waiver from the Department of Energy (DOE) test procedure for Miscellaneous Refrigeration Products in 10 CFR 430 Subpart B, Appendix A. GEA's request is fully consistent with the previously granted waiver provided to GEA under Case Number RF-042, 80 FR 7851.

GEA requests this waiver and interim waiver for the same reason as its previous waiver request: the current test procedure for dual compressor models is not applicable to GEA's models that demonstrate non-uniform compressor cycling. GEA requests expedited treatment of this Petition and Application as DOE has considered this exact issue before and approved the petition. This supplemental waiver request is filed only to add new basic models to the existing waiver.

1. About GE Appliances

GEA is a leading US manufacturer of home appliances. GEA offers a full suite of major appliances across seven brands as well as portable appliances. GEA has been a participant in and contributor to the DOE's home appliance energy conservation program since its founding more than 40 years ago. Indeed, GEA supports the goal of the appliance efficiency program: maximizing energy savings improvements that offer consumers real economic benefits and that do not diminish product performance. GEA devotes substantial resources to the development of new technologies to increase energy efficiency where they are feasible and engineering products to meet the demanding DOE energy efficiency requirements.

2. Basic Models for Which a Waiver is Requested

This Petition for Waiver and Application for Interim Waiver covers the combination cooler refrigeration product basic model listed below.

Product Class C-9I-BI, Built-in cooler with upright freezer with automatic defrost with an automatic icemaker
G30W_C-9I-BI_N

The basic model will be distributed in commerce under the brand name “Monogram”.

3. Design Characteristic Constituting Grounds for the Petition

The basic model listed utilizes a dual compressor design. The non-uniform compressor cycling makes direct use of the Appendix A requirements for evaluating temperature stability problematic, if not impossible.

4. Requirements Sought to be Waived

The current test procedure in Appendix A for Multiple-Compressor Products with Automatic Defrost, 4.2.3.4.2 requires that “For each compressor system, the compartment temperature averages for the first and last complete compressor cycles that lie completely within the second part of the test must be within 0.5 °F (0.3 °C) of the average compartment temperature measured for the first part of the test.” The non-uniform compressor cycles of this product prevent consistent application of these requirements. As DOE stated when granting GEA’s previous petition, “DOE has reviewed the alternate test procedure and believes that it will allow for the accurate measurement of the energy use of these products, while alleviating the testing problems associated with GE’s implementation of a dual compressor system”. (80 FR 7853). Without a waiver, the basic models referenced above cannot be accurately tested and rated for energy consumption.

5. Manufacturers of All Other Basic Models with Similar Design Characteristics

To GEA’s knowledge, the only other models with similar design characteristic are those listed in GEA’s previously granted waiver, which is cited above.

6. The Proposed Alternate Test Procedure Has Been Approved by DOE

GEA requests that the alternate test procedure prescribed by DOE in the GEA waiver order at 80 FR 7851 - 7854 be used to measure the energy efficiency for the basic model referenced above.

The alternate test procedure instructions for this waiver are included in Exhibit A. They are identical to the alternate test procedure approved by DOE in 80 FR 7851 – 7854.

7. The Application for Interim Waiver Should Be Granted

a. The Petition for Waiver Will Likely be Successful

This Petition for Waiver is likely to be granted as an identical waiver has already been granted to GEA. The alternate test procedure, previously approved by DOE, is applicable to the basic models’ design characteristics and will evaluate the performance of the models in a manner representative of the actual energy consumption.

b. Failure to Provide an Interim Waiver Will Cause Economic Hardship and Competitive Disadvantage

If DOE does not promptly grant an interim waiver, GEA will likely be unable to test and certify this model within a commercially reasonable time. Such delay will prevent effective competition within the marketplace and place GEA at an unfair competitive disadvantage.

8. Notice to Other Manufacturers

Pursuant to 10 CFR 430.27(c), upon publication of a grant of interim waiver, GEA will notify in writing all known manufacturers of domestically marketed basic models of the same product class (as specified in 10 CFR 430.32) and of other product classes known to the petitioner to use the technology or have the characteristic at issue in the waiver. The notice will include a statement that DOE has published the interim waiver and petition for waiver in the Federal Register and the date the petition for waiver was published. The notice will also include a statement that DOE will receive and consider timely written comments on the petition for waiver. Within five working days of publication of the grant of interim waiver, GEA will file with DOE a statement certifying the names and addresses of each person to whom a notice of the petition for waiver was sent.

9. Conclusion

GEA respectfully requests that DOE grant this Petition for Waiver and Application for Interim Waiver from the current test procedure for the specified basic models. As DOE has already reviewed and approved an identical request for GEA, GEA requests expedited review and approval of the application for Interim Waiver.

Very truly yours,
/s/
John T. Schlafer
Attachments:
Exhibit A – Alternate Test Procedure Page 4 Mr. Daniel Simmons

EXHIBIT A: Alternate Test Procedure for Multiple-compressor Products with Automatic Defrost

$$ET = (1440 \text{ x } EP1/T1) + \sum_{i=1}^{D} [(EP2_i - (EP1 \text{ x } T2_i/T1)) \text{ x } (12/CT_i)]$$

Where:

— ET is the test cycle energy (kWh/day);
— 1440 = number of minutes in a day
— EP1 is the dual compressor energy expended during the first part of the test (If at least one compressor cycles, the test period for the first part of the test shall include a whole number of complete primary compressor cycles comprising at least 24 hours of stable operation, unless a defrost occurs prior to completion of 24 hours of stable operation, in which case the first part of the test shall include a whole number of complete primary compressor cycles comprising at least 18 hours of stable operation);
— T1 is the length of time for EP1 (minutes);
— D is the total number of compartments with distinct defrost systems;
— i is the variable that can equal to 1,2 or more that identifies the compartment with distinct defrost system;
— $EP2_i$ is the total energy consumed during the second (defrost) part of the test being conducted for compartment i. (kWh);
— $T2_i$ is the length of time (minutes) for the second (defrost) part of the test being conducted for compartment i.
— 12 = conversion factor to adjust for a 50% run-time of the compressor in hours/day

— CT_i is the compressor-on time between defrosts for only compartment i. CT_i for compartment i with long time automatic defrost system is calculated as per 10 CFR Part 430, Subpart B, Appendix A clause 5.2.1.2. CT_i for compartment i with variable defrost system is calculated as per 10 CFR part 430 subpart B, Appendix A clause 5.2.1.3. (hours rounded to the nearest tenth of an hour).

Stabilization:

The test shall start after a minimum 24 hours stabilization run for each temperature control setting.

Test Period for $EP2_i$, $T2_i$:

$EP2_i$ includes precool, defrost, and recovery time for compartment i, as well as sufficient dual compressor cycles to allow $T2_i$ to be at least 24 hours, unless a defrost occurs prior to completion of 24 hours, in which case the second part of the test shall include a whole number of complete primary compressor cycles comprising at least 18 hours. The test period shall start at the end of a regular freezer compressor on-cycle after the previous defrost occurrence (refrigerator or freezer). The test period also includes the target defrost and following freezer compressor cycles, ending at the end of a freezer compressor on-cycle before the next defrost occurrence (refrigerator or freezer).

Test Measurement Frequency

Measurements shall be taken at regular intervals not exceeding 1 minute.
[FR Doc. 2020-25435 Filed: 11/17/2020 8:45 am; Publication Date: 11/18/2020]